

Appl. No. 10/507,351
Amdt. dated December 13, 2007
Reply to Office Action of July 16, 2007

Amendments to the Drawings:

The attached replacement sheets of drawings include Figures 2, 8 and 9 on 3 pages.

Attachment: Replacement Sheets

REMARKS

Amendments to the Claims

Applicants appreciate the withdrawal of the restriction requirement. Applicant also appreciates the careful review of the claims in this Office Action. Claims 1-47 were present in this application. Applicant has canceled claims 31-34 with this amendment, leaving claims 1-30 and 35-47 under examination with entry of the present Amendment. Claims 1, 4, 5, 7-9, 11, 12, 15-18, 20-22, 24, 26, 28-30, 35, 38, 39, and 44 are amended as discussed below in view of the Office Action rejections under 101 and 112.

No new matter has been added with the amendments made herein. Support for the amendments is found throughout the application and in the as-filed claims. Applicants believe that the new and amended claims better define the invention in a manner supported by the original application, and in a manner so as to render moot the rejections as set out below.

Information Disclosure Statement

Applicant filed an Information Disclosure Statement on February 10, 2005 which included a three page PTO-Form 1449 (copy of Express Mail receipt and return postcard stamped by the Patent Office which indicates a three page Form 1449 was submitted on February 10, 2005 are enclosed). In addition, the Patent Office PAIR system shows a four page IDS filed on February 10, 2005 (which includes a one page Information Disclosure Statement and three page 1449). Only the last page of this PTO-Form 1449 was returned to Applicant with the current Office Action. With this response, Applicant resubmits the entire Information Disclosure Statement including the three page PTO-Form 1449. Copies of required references were sent with the submission on February 10, 2005 and are not included again, however, will be sent upon request. Applicant respectfully requests the Examiner return the entire PTO-Form 1449 initialed to indicate consideration of the references listed therein by the Examiner.

Amendments to the Drawings

The Office Action states that “figures 2, 8, and 9 of what appears to be replacement drawings filed 2/24/05 are not discernible. Further, although these appear to be replacement drawings, the replacement sheets are not labeled as such.” New Figures 2, 8 and 9 enclosed herewith, now labeled as replacement sheets, represent the best images available to Applicants for these thermographic images. The thermographic images were originally based on color images and have been printed in black and white. The drawings are now believed to be discernible. The drawings are believed to comply with 37 C.F.R. 1.121(d) and 37 C.F.R. 1.84. Entry of these replacement sheets is respectfully requested.

Claim Rejections under 35 U.S.C. §101

The Office Action states that claims 1-47 are rejected under 35 U.S.C. 101 because the invention is directed to non-statutory subject matter. The Office Action also states that:

Claims 1-34 and 42-47 are drawn to a process. A statutory process must include a step of a physical transformation, or produce a useful, concrete, and tangible result (State Street Bank 7 Trust Co. v. Signature Financial Group inc. CAFC 47 USPQ2d 1596 (1998), AT&T Corp. v. Excel Communications Inc. (CAFC 50 USPQ2d 1447 (1999)). ... In determining if the claimed subject matter produces useful, concrete, and tangible result, the Examiner must determine each standard individually. For a claim to be “useful”, the claim must produce a result that is specific, and substantial. For a claim to be “concrete”, the process must have a result that is reproducible. For a claim to be “tangible”, the process must produce a real world result. Furthermore, the claim must be limited only to statutory embodiments.

With respect claims 35-41, the placement of non-statutory method in an apparatus does not provide for a statutory invention.

Claims 1-47 do not provide for the inventions that produce a tangible result. A tangible result requires that the claim must set forth a practical application to produce a real-world result. This rejection could be overcome by amendment of the claims to recite that a result of the method is outputted to a display or a

memory or another computer on a network, or to a user, or by including a physical transformation.

Applicants respectfully disagree with this rejection. However, without acquiescing, but to further prosecution, Applicants have amended each of the independent claims to recite the outputting step or output means, as suggested in the Office Action. For example, claim 1 is revised to recite the additional step of “outputting the predicted value of the composition characteristic of the test antler to a computer, memory, display or printer”. Applicants note that support for these revisions are found in the original specification and claims, which recite computer and storage means (see page 16, second paragraph, for example), computer hardware monitor/printer and software programs (page 17, second paragraph, for example), and displaying results as a notification on the screen (page 22, last two paragraphs, for example). Reconsideration and withdrawal of the 101 rejection is respectfully requested.

Claim Rejections under 35 U.S.C. §112

The Office Action states that claims 1-20 and 25-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Office Action notes several instances where it is not clear whether test or sample images is meant, test or sample antler is meant, or where the claim term lacks antecedent basis. Applicants have now amended all of the claims referred to in the Office Action to better clarify test and sample images and test and sample antlers, and to address antecedent or clarity of wording issues. Applicants have also amended certain of the claims, including claim 1 to clarify between “temperature” and “non-temperature” input variables, and to refer to the “predicted” value of the composition characteristic. The claims are also amended to add letters before the steps of the claims to better enable reference back to a step in the same claim or in a subsequent claim. Claim 12 is amended to clarify that, when a temperature change is used, the sample and test images are obtained *in vitro* (not *in vivo*). As a result of the latter

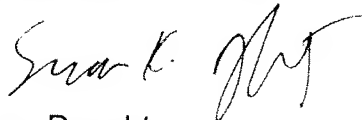
change, claims 15 and 16 are further amended to delete the redundant reference to *in vitro*. Claims 15 and 16 are also revised to clarify that value of the temperature change from previous steps is used as an additional input variable in the predictive model, and to delete the reference to high calcification and low metabolic activity in favor of the composition characteristic, as supported in claim 1. Claim 20 is amended to clarify that the method relates to generating a comparative value of an internal composition characteristic, and to substitute "comparing" for "scoring". Claim 22 is likewise amended to substitute "comparing" for "scoring", again to clarify the method step. Claim 26 is amended to clarify that the claim relates to a test antler, and to identify first time and second time tip images, and first time and second time base images, to clarify which images are being processed in the various steps. Claims 28, 29 and 30 are similarly amended to use consistent language to the base claim 26. Since claims 26 - 30 relate to making the decision of when to harvest the test antler, claims 31-34 directed to *in vitro*, warming and cooling, have been deleted. It is believed that the amendments to the claims are all supported by the original claims and fully address the 112 issues. Reconsideration and withdrawal of the rejection is respectfully requested.

Conclusion

In view of the foregoing, it is submitted that this case is in condition for allowance, and passage to issuance is respectfully requested. If there are any outstanding issues related to patentability, the courtesy of a telephone interview is requested, and the Examiner is invited to call to arrange a mutually convenient time.

This response is accompanied by a Petition for Extension of Time (two months) and authorization to charge the Deposit Account 07-1969 in the amount of \$460 for a large entity. It is believed that this response does not necessitate the payment of any additional fees under 37 C.F.R. 1.16-1.17. If this is incorrect, however, please charge any additional fees due, including the fees for any extensions of time required, to Deposit Account No.07-1969.

Respectfully submitted,



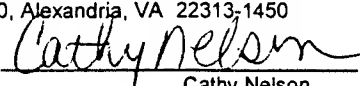
Susan Doughty
Reg. No. 43,595

GREENLEE, WINNER & SULLIVAN, P.C.
4875 Pearl East Circle, Suite 200
Boulder, CO 80301
Telephone: (303) 499-8080
Facsimile: (303) 499-8089
Email: usptomail@greenwin.com
Attorney docket No. 23-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/507,351 Confirmation No. 5654
Applicant : Schaefer et al.
Filed : September 9, 2004
TC/A.U. : 1645
Examiner : Not Assigned
For : METHOD FOR THE EVALUATION OF VELVET ANTLER
Docket No. : 23-02
Customer No. : 23713

Commissioner for Patents
MAIL STOP AMENDMENT
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for Express Mail in an envelope addressed to: Commissioner for Patents, Mail Stop Amendment, PO Box 1450, Alexandria, VA 22313-1450	
February 10, 2005 Date	 Cathy Nelson
EV 569 067 221 US Express Mail Tracking Number	

INFORMATION DISCLOSURE STATEMENT

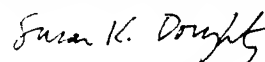
Sir:

The Examiner is respectfully requested to consider the references, copies enclosed, which may qualify as prior art. For the Examiner's convenience, the references are listed on the attached Patent and Trademark Office form PTO-1449. Pursuant to the Waiver published in the Official Gazette on August 5, 2003, because this application was filed after June 30, 2003, copies of cited U. S. patent documents are not included, but will be provided upon request.

This information is cited in a spirit of forthrightness and cooperation to enable the applicants to obtain that measure of protection for the invention to which there is entitlement. However, no representation is made that the listed art actually qualifies as prior art under the patent statute and the mere use of PTO-1449 is not an admission that all listed references are prior art. No representation is made that applicants know of the best art.

It is believed that this submission does not require the payment of a fee. If this is not correct, please charge any required fee to deposit account no. 07-1969.

Respectfully submitted,



Susan K. Doughty
Reg. No. 43,595

GREENLEE, WINNER AND SULLIVAN, P.C.
4875 Pearl East Circle, Suite 200
Boulder, CO 80301
Telephone: (303) 499-8080
Facsimile: (303) 499-8089
E-mail: winner@greenwin.com
Attorney Docket No. 23-02
February 10, 2005

Form PTO - 1449 U.S. DEPT. OF COMMERCE
PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

(Use several sheets if necessary)

ATTY. DKT. NO.

23-02

SERIAL NO.

10/507,351

APPLICANT

Schaefer et al.

FILING DATE

09/09/04

GROUP

1645

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date
	3,245,402	04/12/66	Barnes, et al.	600	474	05/21/63
	3,877,818	04/15/75	Button, et al.	356	416	01/28/74
	3,948,249	04/06/76	Ambrosini, et al.	600	551	03/31/78
	3,991,744	11/16/76	Goodfield	128	2	04/22/75
	4,366,381	12/28/82	Fischer et al.	250	316.1	12/15/80
	4,788,427	11/29/88	LeRoy	250	330	09/04/86
	4,914,672	04/03/90	Hebrank	374	124	07/14/88
	4,995,398	02/26/91	Turnidge	128	668	04/30/90
	4,998,826	03/12/91	Wood et al.	374	129	11/30/88
	5,408,041	04/18/95	Mundy, et al.	530	413	01/13/94
	5,458,418	10/17/95	Jones, et al.	374	45	07/02/93
	5,474,085	12/12/95	Hurnik, et al.	600	587	02/24/94
	5,595,444	01/21/97	Tong, et al.	374	45	10/16/95
	5,691,397	11/25/97	Glimcher, et al.	523	115	10/10/96
	5,740,809	04/21/98	Baratta, et al.	600	474	10/26/94
	5,944,598	08/31/99	Tong et al.	452	158	08/19/97
	6,123,451	09/26/00	Schaefer, et al.	374	45	03/16/98

FOREIGN PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	CA 2,132,219	09/30/93	Canada	C12N	15/18	Yes	
	CA 2,201,768	10/11/97	Canada	A61K	35/32	Yes	
EXAMINER					Date Considered		

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO - 1449 U.S. DEPT. OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		ATTY. DKT. NO. 23-02	SERIAL NO. 10/507,351
		APPLICANT Schaefer et al.	
		FILING DATE 09/09/04	GROUP 1645

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
		Bowers, S. et al. (2002) Antlerogenesis in red deer stags: relationships between velvet antler growth rates and temperature measurements. J. Anim. Sci. 80(2):31.
		Cho, C.-H., Woo, Y., Kim, H., Chung, Y., Chang, S. and Chung, H. (2001) Rapid qualitative and quantitative evaluation of deer antler (<i>Cervis elaphus</i>) using near-infrared reflectance spectroscopy. Microchemical Journal 68(2-3):189-195.
		Cena, K. and Clark, J.A. (1973) Thermographic measurements of the surface temperatures of animals. J. Mammol. 54:1003-1007.
		Cook, N.J. and Schaefer, A.L. (2002) Stress responses of wapiti (<i>Cervus elaphus canadensis</i>) to removal of velvet antler. Can. J. Anim. Sci. 82(1):11-17.
		Drew, K.R. (1990) Venison and other deer products. Proceedings, 2 nd Int. Deer Biology Conference. Mississippi.
		Haigh, J.C. and Hudson, R.J. (1993) Farming Wapiti and Red Deer. Mosby-Year Book Inc., pp. 150-152.
		Haines, S.R. and Suttie, J.M. (2001) Near-infrared spectroscopy for antler composition analysis. In J.S. Sim, H.H. Sunwoo, R.J. Hudson and B.T. Jeon. 2001. Antler Science and Product Technology. Antler Science and Product Technology Research Centre, Edmonton, Canada (ISBN 1-896110-14-2), pp. 135-150.
		Issacs, C. (1993) Velvet usage. In. A Salute to World Deer Farming. Proceedings of the 1 st World Deer Congress, Christchurch, N.Z. New Zealand Deer Farmers Association. Wellington, N.Z., pp. 205-206.
		Li, C. and Suttie, J.M. (2001) Deer Antler Generation: A Process from Permanent to Deciduous. In J.S. Sim, H.H. Sunwoo, R.J. Hudson and B.T. Jeon. (eds) 2001. Antler Science and Product Technology. Antler Science and Product Technology Research Centre, Edmonton, Canada (ISBN 1-896110-14-2), pp. 15-31.
		Mundy, G.R., Gutierrez, G., Gallwitz, W., Feng, J., Chen, D., Garrett, R. and Harris, S. (2001) Antler derived bone growth factors and their potential for use in osteoporosis. In J.S. Sim, H.H. Sunwoo, R.J. Hudson and B.T. Jeon. (eds) 2001. Antler Science and Product Technology. Antler Science and Product Technology Research Centre, Edmonton, Canada (ISBN 1-896110-14-2), pp. 171-187.
EXAMINER		Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO - 1449 U.S. DEPT. OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		ATTY. DKT. NO. 23-02	SERIAL NO. 10/507,351
		APPLICANT Schaefer et al.	
		FILING DATE 09/09/04	GROUP 1645

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)	
	<p>Roubin, R. And Ghosh, P. (2001) Deer antler cartilage cells express specific growth factors which up-regulate chondrocyte DNA and proteoglycan biosynthesis in vitro. In J.S. Sim, H.H. Sunwoo, R.J. Hudson and B.T. Jeon. (eds) 2001. Antler Science and Product Technology. Antler Science and Product Technology Research Centre, Edmonton, Canada (ISBN 1-896110-14-2), pp. 151-170.</p>
	<p>Schaefer, A.L., Young, B.A. and Turner, B.V. (1982) The effect of cold exposure on blood flow distribution in sheep. J. Thermal Biol. 7:15-21.</p>
	<p>Sunwoo, H.H. and Sim, J.S. (2001) Morphological, chemical and molecular characteristics of active components in velvet antlers for biomedicine and nutraceuticals. In J.S. Sim, H.H. Sunwoo, R.J. Hudson and B.T. Jeon. (eds) 2001. Antler Science and Product Technology. Antler Science and Product Technology Research Centre, Edmonton, Canada (ISBN 1-896110-14-2), pp. 111-134.</p>
	<p>Suttie, J.M.; Fennessy, P.F.; Corson, I.D.; Laas, F.J.; Crosbie, S.F.; Butler, J.H. and Gluckman, P.D. (1989) Pulsatile growth hormone, insulin-like growth factors and antler development in red deer (<i>Cervus alaphus scoticus</i>) stags. J. Endocrin. 121:351-360.</p>
	<p>Suttie, J.M. and Fennessy, P.F. (1990) Antler regeneration studies with antler removal, axial tomography and angiography. In. Horns, Pronghorns and Antlers. Springer-Verlag. N.Y., pp. 313-338.</p>
	<p>Suttie, J.M.; Li, C.; Bubenik, G.A. and Rolf, H.J. (1998) Studies of antler growth: a review of literature. Advances in Deer Biology. Procs. 4th International Deer Biology Congress, Kaposvar, Tipo Express Ltd. Kaposvar, pp. 375-382.</p>
	<p>Sunwoo, H.H.; Nakano, T.; Hudson, R.J. and Sim, J.S. (1995) Chemical composition of antlers from wapiti (<i>Cervus elaphus</i>). J. Agric. Food Chem. 43:2846-2849.</p>
	<p>Sunwoo, H.H.; Sim, L.Y.M.; Nakano, T.; Hudson, R.J. and Sim, J.S. (1997) Glycosaminoglycans from growing antlers of wapiti (<i>Cervus elaphus</i>) Can. J. Anim. Sci. 77:715-721.</p>
	<p>Turner, T.A.; Fessler, J.F.; Lamp, M.; Pearce, J.A. and Geddes, L.A. (1983) Thermographic evaluation of horses with podotrochlosis. Am. J. Vet. Res. 44: 535-539.</p>
	<p>Wang Shuazhi, W. (1993) The utilization of deer co-products in China. Procs. of the First World Deer Farming Congress, Christchurch, New Zealand, pp. 209-210.</p>
	<p>Zetti-Schaffer, K.F., Ghaffarpour, M., McGovern, T.F. and Engh, C.A. (1993) Scanning electron microscope of bone growth into 40% and 80% porous coated AML prosthesis retrieved at autopsy. 39th Annual meeting, Orthopedic Research Society 18:471.</p>

EXAMINER	Date Considered .
----------	----------------------

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PLEASE ACKNOWLEDGE RECEIPT OF THE FOLLOWING:

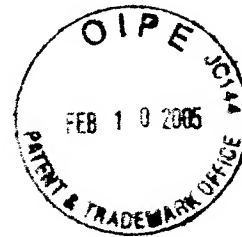
1. Information disclosure statement - 1 page
2. Form PTO 1449 - 3 pages
3. Copies of 2 foreign patent documents
4. Copies of 21 non-patent literature documents

Attorney Docket No. 23-02

USSN 10/507,351

SKD/can: 2/10/05

Express Mail Receipt No.: EV 569 067 221 US



ENT'D FEB 22 2005

EV569067221US



EV 569067221 US



UNITED STATES POSTAL SERVICE®

Customer Copy
Label 11-F, April 2004

Post Office To Addressee

ORIGIN (POSTAL SERVICE USE ONLY)

ZIP Code 80301	Day of Delivery <input checked="" type="checkbox"/> Next <input type="checkbox"/> 2nd <input type="checkbox"/> 2nd Del. Day	Postage \$ 24.20
Date Accepted 02/05	Scheduled Date of Delivery 02/11	Return Receipt Fee \$
Mo. Day Year 5/4/05	Scheduled Time of Delivery <input type="checkbox"/> Noon <input type="checkbox"/> 3 PM	COD Fee \$
Time Accepted <input type="checkbox"/> AM <input type="checkbox"/> PM	Military <input type="checkbox"/> 2nd Day <input type="checkbox"/> 3rd Day	Insurance Fee \$
Flat Rate <input type="checkbox"/> or Weight 3 15.1 lbs. ozs.	Int'l Alpha Country Code	Total Postage & Fees \$ 24.20
		Acceptance Emp. Initials LM

DELIVERY (POSTAL USE ONLY)

Delivery Attempt	Time <input type="checkbox"/> AM <input type="checkbox"/> PM	Employee Signature
Mo. Day		
Delivery Attempt	Time <input type="checkbox"/> AM <input type="checkbox"/> PM	Employee Signature
Mo. Day		
Delivery Date	Time <input type="checkbox"/> AM <input type="checkbox"/> PM	Employee Signature
Mo. Day		
<input type="checkbox"/> WRITER OF SIGNATURE (Non-Registered Mail Only) Signature required for delivery of articles of value or articles of interest to the public. If delivery is made without signature, the carrier will not be held responsible for loss or damage. If delivery is made without signature, the carrier will not be held responsible for loss or damage. If delivery is made without signature, the carrier will not be held responsible for loss or damage.		
NO DELIVERY <input type="checkbox"/> Weekend <input type="checkbox"/> Holiday		

POSTAGE OF PAYMENT:

Express Mail Corporate Acct. No.

X803074

Federal Agency Acct. No. or
Postal Service Acct. No.

FROM: (PLEASE PRINT)

PHONE ()

GREENLEE WINNER & SULLIVAN PC
4875 PEARL EAST CIR STE 200
BOULDER CO 80301-6103

SKD/can: 2/10/05

23-02

TO: (PLEASE PRINT)

PHONE ()

MAIL STOP AMENDMENT
COMMISSIONER FOR PATENTS
PO BOX 1450
ALEXANDRIA VA 22313-1450FOR PICKUP OR TRACKING: Visit www.usps.com or Call 1-800-222-1811